Case 2747

Strophomena de Blainville, 1825 (Brachiopoda): proposed designation of *Leptaena planumbona* Hall, 1847 as the type species

L.R.M. Cocks

Department of Palaeontology, The Natural History Museum, Cromwell Road, London SW7 5BD, U.K.

Abstract. The purpose of this application is to stabilise the name of the important Ordovician brachiopod genus *Strophomena* de Blainville, 1825 by designating *Leptaena planumbona* Hall, 1847 as its type species in place of the poorly known species *Strophomena rugosa* de Blainville, 1825.

1. The brachiopod genus *Strophomena* has given its name not only to the family STROPHOMENIDAE King, 1846 and the superfamily STROPHOMENACEA, but also to the suborder Strophomenidina and the order Strophomenida; this last is the most numerous order of articulate brachiopods with more than a thousand genera and includes the productids and chonetids. This classification has been accepted for a long time and forms an integral part of the brachiopod volume of the *Treatise on Invertebrate Paleontology* (Williams, 1965).

2. However, the nominal genus *Strophomena* is not well founded and this application proposes action to stabilise the name. The problem has been well known for over a hundred years, being discussed at length by, among others, Davidson (1853, pp. 105–108), Hall & Clarke (1892, pp. 246–250), Nickles (1903, pp. 214–217) and Pope (1976, p. 154), but never resolved.

3. Rafinesque & Clifford (1820, p. 232) referred to 'plusieurs nouveaux genres, tels que *gonotrema*, *diclisma*, *pleurinia*, *stropheria*, *strophomenes*, *clipsilis* etc., outre les vrais genres *terebratula* et *productus*' when describing a new fauna from the Ordovician of Kentucky; however, there was no further description of '*strophomenes*' apart from making clear that they were shells. Defrance (1824, p. 5) used the phrase 'de coquilles bivalves du genre Strophomène' when describing a block from the Silurian of Dudley, England; in a table (p. 110) he stated that 'Strophomène' had three species but he did not name them. De Blainville (1825, p. 513) was the first to give a proper description of the genus and also the first to use the spelling *Strophomena*, thereby establishing the name. Under Article 50a of the Code, authorship must be attributed to de Blainville even though he attributed authorship to Rafinesque.

4. De Blainville mentioned only one species by name, '*Strophomena rugosa* Rafin.', which is therefore the type species by monotypy with de Blainville as the author. He figured (pl. 53, fig. 2) the dorsal and ventral valves of one specimen of *Strophomena rugosa*, although the plate was probably not published until September 1827 (note in the copy in the Natural History Museum, London). The two figures show a generalised shield-shaped brachiopod which might represent a strophomenid, but could be a rafinesquinid or even a form within an entirely different superfamily such as an orthid.

De Blainville omitted to mention any locality or geological horizon for *Strophomena* or *S. rugosa.*

5. King (1846, p. 28) named the family STROPHOMENIDAE to include *Strophomena* and related genera and it is this work which forms the basis of the key position that *Strophomena* and the strophomenids occupy today. This position was reinforced by the substantial monograph of Davidson (1853, 1871) who attributed many species to the genus. However, several nineteenth century authors agonised about the true identity of the genus and in particular the species *rugosa.*

6. Hall & Clarke (1892, p. 246), referring to *Strophomena rugosa*, wrote 'there seems to be sufficient reason to believe that it is the same species which was subsequently described as *Leptaena planumbona*'. This species, named by Hall (1847, p. 112), is a well-founded and properly described brachiopod from the Ordovician Trenton Limestone of Ohio, Indiana and Kentucky.

7. Subsequent authors have tended to follow Hall & Clarke in using *planumbona* to define their concept of *Strophomena.* Nickles (1903, p. 215) did not accept that de Blainville's description or figures justified Hall & Clarke's synonymy with *Leptaena planumbona.* Nevertheless, he accepted Hall & Clarke's solution to the problem, writing that 'the wisest solution of the difficulties and the one that observes the real intent, if not the exact letter of the law of priority is to recognize ... the genus *Strophomena* ... with the *Strophomena planumbona* (Hall) as its type'. In the *Treatise on Invertebrate Paleontology*, Williams (1965, p. H384) gave the type species of *Strophomena* as '*S. rugosa* (?conspecific with *Leptaena planumbona* Hall, 1847)'. Pope (1976, p. 154) wrote that 'authors subsequent to Nickles ... also based *Strophomena* upon *S. planumbona* (Hall)' and 'the type should be fixed as *Strophomena planumbona* (Hall) by appeal to the International Commission on Zoological Nomenclature so that no uncertainty continues'.

8. Recent systematic papers (e.g. Cocks, 1978, p. 107; Rice, 1987, p. 157) correctly cite the nominal species *Strophomena rugosa* as the type species of *Strophomena*, it being the only originally included species. However, the name *Strophomena rugosa* has not been used in anything other than a formal sense since de Blainville (1825) and its true identity is uncertain. Since *Leptaena planumbona* Hall, 1847 is currently used as a valid name for the type species of *Strophomena*, stability would be achieved by designation of *L. planumbona* as the type species of *Strophomena.*

9. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary powers:
  (a) to set aside all previous fixations of type species for the nominal genus *Strophomena* de Blainville, 1825 and to designate *Leptaena planumbona* Hall, 1847 as the type species;
  (b) to suppress the specific name *rugosa* de Blainville, 1825, as published in the binomen *Strophomena rugosa*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
(2) to place on the Official List of Generic Names in Zoology the name *Strophomena* de Blainville, 1825 (gender: feminine), type species by designation in (1)(a) above *Leptaena planumbona* Hall, 1847;
(3) to place on the Official List of Specific Names in Zoology the name *planumbona* Hall, 1847, as published in the binomen *Leptaena planumbona* (specific name of the type species of *Strophomena* de Blainville, 1825);

(4) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *rugosa* de Blainville, 1825, as published in the binomen *Strophomena rugosa*, and as suppressed in (1)(b) above.

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